

LETTER TO THE EDITOR



Chondrolaryngoplasty in transgender women: Prospective analysis of voice and aesthetic satisfaction

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We read with interest the recent publication by Aires et al. (2020) in which the authors report a prospective interventional evaluation comparing the acoustic and perceptual voice outcomes along with esthetic satisfaction in a cohort of fifteen transgender individuals undergoing a chondrolaryngoplasty. We commend the authors for their contribution and for providing us additional data on patient reported outcomes for chondrolaryngoplasty using the visual analog scale (VAS) to assess esthetic satisfaction and voice recordings by speech therapist measured on the GRBAS Hirano scale to assess pitch changes. As gender affirmation surgery (GAS) is becoming more widely used, prospective data is increasingly important to improve patient care. With this being said, we raise the following considerations about the methodology used in this study.

The author's surgical technique follows that previously described by Wolfort and Parry (1975) in which patients are subject to general anesthesia and endotracheal intubation. In this study, the authors used the midpoint of the thyroid cartilage height as a landmark for anterior commissure insertion and included an additional 3 mm safety margin (Aires et al., 2020). While the authors mention that this localization technique has proven to be safe, we are of the opinion that direct visualization through the use of a laryngeal mask airway (LMA), flexible laryngoscopy and needle insertion above the vocal cords adds an additional level of protection. Spiegel and Rodriguez (2008) first implemented this technique (LMA direct visualization) reporting only 1 easily reversible anesthetic

complication, and a 97% satisfaction rate. Notably, none of their patient's reported any voice changes or hoarseness. More recently, Tang (2020) reported a 100% satisfaction rate in their cohort using this technique with no voice changes reported as well. This is in contrast to reports that have used only anatomic localization such as Wolfort's studies in which 18% (2/11) (Wolfort & Parry, 1975) and 68% (21/31) of patients suffered transient voice weakness with one case of voice change persisting for 6 months (Wolfort et al., 1990). Even with their additional 3 mm safety margin, transient voice symptoms were reported in the current study in 2 out of 15 (13%) patients.

In addition to concerns about vocal cord protection, the authors give few details regarding their perichondrial or subperichondrial incisions. Dissection should be carried out carefully here in order to avoid damage to the superior laryngeal nerve and preserve the attachment of the thyrohyoid membrane to the perichondrium of the posterior thyroid cartilage. Subperichondrial elevation should be performed internally and externally in order to avoid hematoma formation on the inner side. While original studies (Wolfort & Parry, 1975) stressed these considerations, this most recent report and many prior studies have left out these important details.

A final consideration worth mentioning is the presence of a hyperpigmented scar in one of the patients included in the current study (Aires et al. 2020). Recently, new techniques such as the transoral endoscopic vestibular approach (TOEVA) chondrolaryngoplasty have been introduced with

considerable success. Khafif et al. (2020) reported that all patients in their study were highly satisfied with the surgical results and were 100% pleased with their nonvisible scars. As this study reported on a small number of patients ($n=4$), there is a need for future validation, especially given the potential concerns for an increased risk of infection with the use of an intra oral approach. In the future, TOEVA may provide a more esthetically pleasing outcome.

In conclusion, we appreciate the authors contribution to the field of GAS and encourage greater data collection. In performing chondrolaryngoplasty, we hope that safety will continue to be regarded with the utmost importance and that future reports will elucidate the most safe, effective, and esthetically pleasing techniques for the benefit of our future patients.

Disclosure statement

The authors have no conflict of interest to declare.

References

- Aires, M. M., de Vasconcelos, D., & de Moraes, B. T. (2020). Chondrolaryngoplasty in transgender women: Prospective analysis of voice and aesthetic satisfaction. *International Journal of Transgender Health*. <https://doi.org/10.1080/26895269.2020.1848690>
- Khafif, A., Shoffel-Havakuk, H., Yaish, I., Tordjman, K., & Assadi, N. (2020). Scarless neck feminization: Transoral transvestibular approach chondrolaryngoplasty. *Facial Plastic Surgery & Aesthetic Medicine*, 22(3), 172–180. <https://doi.org/10.1089/fpsam.2020.0021>
- Spiegel, J. H., & Rodriguez, G. (2008). Chondrolaryngoplasty under general anesthesia using a flexible fiberoptic laryngoscope and laryngeal mask airway. *Archives of Otolaryngology-Head & Neck Surgery*, 134(7), 704–708. <https://doi.org/10.1001/archotol.134.7.704>
- Tang, C. G. (2020). Evaluating patient benefit from laryngochondroplasty. *The Laryngoscope*, 130(S5), S1–S14. <https://doi.org/10.1002/lary.29075>
- Wolfort, F. G., Dejerine, E. S., Ramos, D. J., & Parry, R. G. (1990). Chondrolaryngoplasty for appearance. *Plastic and Reconstructive Surgery*, 86(3), 464–470.
- Wolfort, F. G., & Parry, R. G. (1975). Laryngeal chondroplasty for appearance. *Plastic and Reconstructive Surgery*, 56(4), 371–374. <https://doi.org/10.1097/00006534-197510000-00001>